

IN THE CLAIMS

1. (currently amended) A data generating device ~~installed on an upstream side of a switching device for performing switching based on data of a first layer~~, comprising:

a reading unit to read out forward management information relating to a forwarding process of ~~forward-multicast data to be containing a multicast address as a destination address of a first layer to be forwarded to one or more clients~~ from data of a second layer higher than the first layer, wherein each of the first layer and the second layer is one of layers defined on an OSI model;

a storage unit to store the forward management information read by ~~[[said]]the~~ reading unit;

a data generating unit to identify one or more clients, each of which desires to receive multicast data and corresponds to a forward destination of the ~~forward-multicast data~~, based on the forward management information stored in ~~[[said]]the~~ storage unit, ~~[[and]]~~ to generate a same number of copies of the multicast ~~pieces of transmission data~~ as a number of identified clients, and to convert the destination address of the first layer of each copy of the multicast data being the multicast address into a first layer address of a corresponding one of the identified clients so that a switching device accommodating the identified one or more clients receives each copy of the multicast data converted the destination address of the first layer to forward each copy of the multicast data to the identified one or more clients based on data of the first layer of each copy of the multicast data wherein each of the pieces of transmission data includes equivalent contents to the forward data and has an address of a corresponding one of the identified clients as a destination address of the first layer of the transmission data; and

a forwarding unit to forward each ~~piece of transmission~~ copy of the multicast data converted the destination address of the first layer and generated by ~~[[said]]the~~ data generating unit to the switching device.

2. (currently amended) A data generating device according to claim 1,

wherein said data generating unit determines one or more clients, each of which corresponds to the forward destination, based on the data of the second layer in the ~~forward~~ multicast data.

3. (previously canceled)

4. (currently amended) A data generating device comprising:

a reading unit to read out information relating to a forwarding process of multicast data including a multicast MAC address as a MAC destination address of a layer 2 defined on an OSI layer model from data of a layer higher than the layer 2;

a storage unit to store forward management information based on the information read by said reading unit; and

a data generating unit to identify, based on the forward management information stored in the storage unit, one or more clients, each of which corresponds to a forward destination of the multicast data, to generate a same number of copies of the received multicast data as a number of identified clients to be forwarding destinations, and to ~~convert~~ ~~transform each copy of the multicast data into unicast data by changing~~ the MAC destination address of the layer 2 of each copy of the multicast data ~~being~~ being ~~[[from]]~~ the multicast MAC address into a unicast MAC the layer 2 address of a corresponding one of the identified clients as a destination address of the layer 2 of the data so that a switching device accommodating the identified one or more clients receives each copy of the multicast data converted the MAC destination address to forward each copy of the multicast data to the identified one or more clients based on data of the layer 2 of each copy of the multicast data., ~~wherein each of the pieces of unicast data is transmitted to each of the identified clients.~~

5. (original)

6. (canceled)

7. (currently amended) A data generating device according to claim 4, further comprising sending unit to send each copy of ~~pieces of the unicast~~ multicast data converted the MAC

destination address and generated by said data generating unit and the received multicast data toward a downstream side.

8-18.(original)

19. (currently amended) A data generating device comprising:

a storage unit to store data relating to one or more clients desiring to receive multicast data to be forwarded to one or more clients based on a protocol of a first layer, wherein the multicast data includes an multicast address as an destination address of a second layer lower than the first layer, and each of the first layer and the second layer is one of layers defined on an OSI model; and

a data generating unit to generate, when accepts the multicast data, copies of the multicast data ~~unicast data~~ per client to be forwarded thereto based on a protocol of the second layer, ~~from the multicast data by changing to convert~~ the destination address of the second layer of each copy of the multicast data being ~~[[from]]~~ the multicast address ~~[[to]]~~ into an address of the client desiring to receive the multicast data, on the basis of the data relating to one or more clients that have been stored in said storage unit, and to give ~~the unicast data~~ the copies of the multicast data per client to a sending unit to send the each copy of the multicast data ~~unicast data~~ toward one or more second layer switches accommodating one or more clients so that one or more second layer switches device receive each copy of the multicast data converted the destination address of the second layer to forward each copy of the multicast data to one or more clients based on data of the second layer of each copy of the multicast data.

20.-21. Cancelled.

22. (currently amended) A data generating method executed by an information processing device ~~installed on an upstream side of a switching device for performing switching based on data of a first layer~~, comprising:

reading forward management information on a forwarding process of ~~forward~~ multicast data to be containing a multicast address as a destination address of a first layer ~~to be forwarded~~

~~to one or more clients~~ from data of a second layer higher than the first layer, wherein each of the first layer and the second layer is one of layers defined on an OSI model;

identifying one or more clients, each of which desires to receive multicast data and corresponds to a forward destination of the ~~forward-multicast~~ data based on of the forward management information;

generating a same number of ~~pieces of transmission~~ copies of multicast data as a number of identified clients[[,]];

converting the destination address of the first layer of each copy of the multicast data being the multicast address into an first layer address of a corresponding one of the identified clients so that a switching device accommodating the identified one or more clients receives each copy of the multicast data converted the destination address of the first layer to forward each copy of the multicast data to the identified one or more clients based on data of the first layer of each copy of the multicast data wherein each of the pieces of transmission data includes equivalent contents to the forward data and has an address of a corresponding one of the identified clients as a destination address of the first layer of the transmission data; and forwarding each of the pieces of transmission copy the multicast data converted the destination address of the first layer to the switching device.

23. (currently amended) A data generating method comprising:

reading information relating to a forwarding process of multicast data including a multicast MAC address as a MAC destination address of layer 2 defined on an OSI layer model from data of a layer higher than the layer 2;

storing forward management information based on the readout information;

identifying, based on the stored forward management information, one or more clients, each of which corresponds to a forward destination of the multicast data; [[and]]

generating, from the multicast data, a same number of copies of the received multicast data as a number of identified clients to be forwarding destinations;[[,]] and [[to]]

~~converting-transform each copy of the multicast data into unicast data by changing the~~ MAC destination address of the layer 2 of each copy of the multicast data [[from]] being the multicast MAC address into the layer 2 an unicast MAC address of a corresponding one of the

identified clients as a destination address of the layer 2 of the data so that a switching device accommodating the identified one or more clients receives each copy of the multicast data converted the MAC destination address to forward each copy of the multicast data to the identified one or more clients based on data of the layer 2 of each copy of the multicast data.

24.-25. Cancelled